

Product Description Document
Freeze/Hard Freeze Headline Consolidation
March 2023

Part 1 – Mission Connection

a) Product Description:

The National Weather Service (NWS) Frost/Freeze product suite consists of Frost Advisory, Freeze Watch, and Freeze Warning. The NWS will consolidate Hard Freeze and Freeze Watch/Warning products in October 2023. Specifically, the Hard Freeze Watch and Hard Freeze Warning headlines will be removed in favor of including Hard Freeze language within the body of Freeze Watch and Freeze Warning products when appropriate. This consolidation will simplify and improve Frost/Freeze messaging and service delivery. The following is a list of the three frost/freeze products as well as their national criteria guidelines.

Frost Advisory: Minimum shelter temperature is forecast to be 33°F to 36°F during the locally defined growing season, on nights with light winds and clear skies.

Freeze Watch: Conditions are favorable for a freeze event to meet or exceed Freeze Warning criteria in the next 12 to 48 hours during the locally defined growing season.

Freeze Warning: Minimum shelter temperature is forecast to be 32°F or less during the locally defined growing season.

Forecasters may add enhanced language within the body of the message when a Freeze Watch/Warning is issued for a minimum shelter temperature forecast to be 28°F or less during the locally defined growing season.

With this change, the Valid Time Event Code (VTEC) phenomena code “HZ” for Hard Freeze Watch and Warning will be decommissioned and the Freeze Watch and Warning VTEC phenomena code “FZ” will remain.

b) Purpose/Intended Use:

Social science research supporting the NWS Hazard Simplification (Haz Simp) project has indicated that there are too many products within the Watch, Warning, and Advisory (WWA) system, which can cause public and partner confusion. Five Non-Precipitation Weather (NPW) products within the Frost/Freeze product suite are not always used consistently across the NWS, which can result in inconsistent service delivery. A more direct and consistent messaging/service delivery can be achieved by eliminating two of the five headlines.

Multiple rounds of feedback both internally and externally have informed this simpler paradigm. Internal NWS surveys garnered support for a change to the frost/freeze headlines citing that collaborating these headlines is a significant challenge across offices and regions. From an external perspective, a public survey found that of the five existing products, people are least familiar with Hard Freeze Watch/Warning and that these headlines are also least important for decision-making purposes (when compared to the other three).

c) Audience/Users:

Agricultural community, climate services partners, and general public

d) Presentation Format:

Freeze Watch, Freeze Warning, and Frost Advisory are text-based products, which appear on the Watch, Warning, and Advisory page on Weather.gov and all other standard dissemination methods.

e) Feedback Method:

Several mechanisms for feedback were employed to inform this product change:

- 1) Multiple internal surveys were conducted and it was found that a large majority of Weather Forecast Offices (WFOs) favored simplification of the Frost/Freeze headlines.
- 2) The NWS released a public survey in Fall 2020 and found that of the five existing products, people are least familiar with Hard Freeze Watch/Warning. These headlines were also least important for decision-making purposes.
- 3) Public survey in 2021 found the consolidation of Freeze and Hard Freeze headlines favorable.

For further information, please contact:

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Part 2 – Technical Description

a) Format and Science Basis: Below are examples of the products in the frost/freeze product suite, including an example of a Freeze Warning with optional enhanced wording of hard freeze.

This serves as an example of how a Freeze Warning could look with descriptive language in the “What” bullet to indicate lower temperatures.

Frost Advisory

URGENT - WEATHER MESSAGE

National Weather Service Des Moines IA

248 PM CDT Sat May 21 2022

IAZ004-015-023-033-034-044-045-057-220400-

/O.NEW.KDMX.FR.Y.0002.220522T0600Z-220522T1400Z/

Emmet-Palo Alto-Pocahontas-Sac-Calhoun-Crawford-Carroll-Audubon-

Including the cities of Estherville, Emmetsburg, Pocahontas,

Laurens, Rolfe, Fonda, Gilmore City, Sac City, Lake View,

Odebolt, Wall Lake, Schaller, Early, Rockwell City, Manson,

Lake City, Pomeroy, Denison, Carroll, Audubon, and Exira

248 PM CDT Sat May 21 2022

...FROST ADVISORY IN EFFECT FROM 1 AM TO 9 AM CDT SUNDAY...

* WHAT...Temperatures as low as 36 will result in frost formation.

* WHERE...Northwest Iowa.

* WHEN...From 1 AM to 9 AM CDT Sunday.

* IMPACTS...Frost could kill sensitive outdoor vegetation if left uncovered.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Take steps now to protect tender plants from the cold.

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Freeze Watch

URGENT - WEATHER MESSAGE

National Weather Service Burlington VT

231 PM EDT Wed Sep 28 2022

NYZ029>031-034-290900-

/O.NEW.KBTB.FZ.A.0001.220930T0500Z-220930T1200Z/

Southeastern St. Lawrence-Southern Franklin-Western Clinton-

Western Essex-

Including the cities of South Colton, Star Lake, Saranac Lake,
Tupper Lake, Dannemora, Ellenburg, Lake Placid, and Newcomb
231 PM EDT Wed Sep 28 2022

...FREEZE WATCH IN EFFECT FROM LATE THURSDAY NIGHT THROUGH FRIDAY
MORNING...

* WHAT...Sub-freezing temperatures as low as 28 possible.

* WHERE...The Northern Adirondacks of New York.

* WHEN...From late Thursday night through Friday morning.

* IMPACTS...Frost and freeze conditions could kill crops, other
sensitive vegetation and possibly damage unprotected outdoor
plumbing.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Take steps now to protect tender plants from the cold. Those that
have in-ground sprinkler systems should drain them and cover
above-ground pipes to protect them from freezing. Bring any
houseplants indoors.

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Freeze Warning (with enhanced language to indicate lower temperatures)

URGENT - WEATHER MESSAGE

National Weather Service New Orleans LA

731 PM CST Fri Dec 25 2020

LAZ039-040-MSZ070-071-077-080>082-260945-

/O.NEW.KLIX.FZ.W.0001.201226T0600Z-201226T1400Z/

Washington-St. Tammany-Pike-Walthall-Pearl River-Hancock-Harrison-
Jackson-

Including the cities of Bogalusa, Enon, Franklinton, Slidell,
Mandeville, Covington, Lacombe, McComb, Dexter, Salem, Tylertown,
Crossroads, McNeil, Poplarville, Picayune, Bay St. Louis,
Waveland, Diamondhead, Gulfport, Pascagoula, Ocean Springs,
Moss Point, Gautier, and St. Martin

731 PM CST Fri Dec 25 2020

...FREEZE WARNING IN EFFECT FROM MIDNIGHT TONIGHT TO 8 AM
CST SATURDAY...

- * WHAT...Hard freeze with temperatures as low as 24 expected.
- * WHERE...In Mississippi, Pike, Walthall, Pearl River, Hancock, Harrison and Jackson Counties. In Louisiana, Washington and St. Tammany Parishes.
- * WHEN...From midnight tonight to 8 AM CST Saturday.
- * IMPACTS...Frost and freeze conditions will kill crops, other sensitive vegetation and possibly damage unprotected outdoor plumbing.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

Take steps now to protect tender plants from the cold. To prevent freezing and possible bursting of outdoor water pipes they should be wrapped, drained, or allowed to drip slowly. Those that have in-ground sprinkler systems should drain them and cover above-ground pipes to protect them from freezing.

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b) Training: Appropriate forecaster training, as well as outreach materials, will be provided before the implementation of changes.

c) Availability:

The product/service is available at: <https://www.weather.gov> for WWA text products.